

## ORD TECHNICAL SUPPORT CENTERS – QUARTERLY REPORT SUMMARY

### Q1 FY19

ORD's Technical Support Centers (TSCs) play a critical role in the Agency's work to protect the environment and public health by responding to requests for technical assistance from EPA's program offices and regions at Superfund, Resource Conservation & Recovery Act (RCRA), and Brownfield sites. This quarter, ORD's five TSCs recorded 60 technical support activities, supporting at least 45 Superfund and RCRA sites and responding to requests from all 10 regions and in 23 states and territories. A majority of the 60 TSC requests were related to technical advice (27) or document review (15).

During this quarter, the TSCs responded to five support requests from four of the 16 Superfund sites that are being targeted for immediate, intense action: a plume delineation request for the Bonita Peak Mining District site in CO, a document review request for the Quendall Terminal site in Renton, WA, a technical advice request for the Tar Creek site in Ottawa County, OK, and a pair of requests for the L.A. Clarke & Sons site in Spotsylvania, VA.

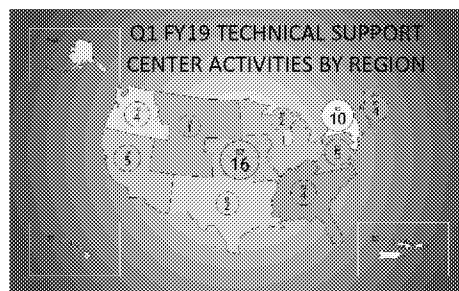
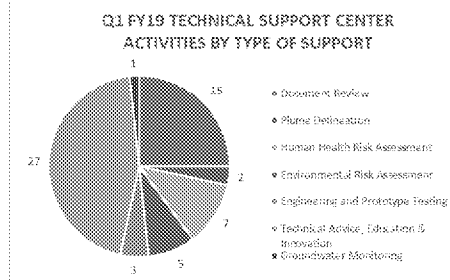
#### Highlights from Q1 FY19 (October – December 2018):

##### Reducing Lead Bioavailability at an Industrial Facility:

- ORD's Engineering Technical Support Center (ETSC) is providing technical support at the Jackson Ceramix Superfund site in Falls Creek, PA, a former china manufacturing and painting facility where historic operations and improper waste disposal has impacted nearby wetlands and contaminated soil, sediment, surface water and groundwater with lead and organic compounds. The ETSC is working with Region 3 Superfund staff to evaluate technologies that use naturally-occurring acid compounds to immobilize lead in media, thereby reducing the likelihood of exposure.

##### Helping Emergency Response Personnel Protect Public Health:

- ORD's Site Characterization and Monitoring Technical Support Center (SCMTSC) is assisting Region 2 emergency response staff with developing models to predict possible air-dispersion of mercury that could result from a fire event at the Vo-toys former manufacturing facility in Harrison, NJ. The air dispersion models will help Regional, State, and local first responders understand possible public health risks that may arise from a fire event and take steps to better prepare for a fire scenario.



ORD's Superfund and Technology Liaisons (STLs) provide links between Superfund site managers and ORD's five specialized TSCs. This report provides details of significant technical support requests, while omitting less noteworthy technical support items.

## Acronyms

ATSDR	Agency for Toxic Substances and Disease Registry	PFAS	Per- and Poly- Fluoroalkylated Substances
BTV	Background Threshold Value	PPRTV	Provisional Peer-Reviewed Toxicity Value
COV	Coefficient of Variation	PRP	Potentially Responsible Party
CFC	Chlorofluorocarbon	QAPP	Quality Assurance Project Plan
CSM	Conceptual Site Model	qPCR	Quantitative Polymerase Chain Reaction
DDT	Dichlorodiphenyltrichloroethane	RCRA	Resource Conservation and Recovery Act
DNAPL	Dense Non-Aqueous Phase Liquid	RCT	Research Coordination Team
ERASC	Ecological Risk Assessment Technical Support Center	RI	Remedial Investigation
ERT	Emergency Response Team	RIM	Radiologically Active Material
ETSC	Engineering Technical Support Center	RPM	Remedial Project Manager
FFS	Focused Feasibility Study	RME	Reasonable Maximum Exposure
FS	Feasibility Study	RML	Regional Removal Management Levels
GWTC	Groundwater Technical Support Center	ROD	Record of Decision
HCFC	Hydrochlorofluorocarbons	RU	Refrigeration Units
IDEM	Indiana Department of Environmental Management	STL	Superfund and Technology Liaison
ISM	Incremental Sampling Methodology	STAR	Self-Sustaining Treatment for Active Remediation
LNAPL	Light Non-Aqueous Phase Liquid	STSC	Superfund Health Assessment Technical Support Center
LTMP	Long-term Management Plan	SCMTSC	Site Characterization and Monitoring Technical Support Center
OH EPA	Ohio Environmental Protection Agency	TCE	Trichloroethylene
OHHRRAF	OLEM Human Health Regional Risk Assessors Forum	TDS	Total Dissolved Solids
OLEM	Office of Land and Emergency Management	UCL	Upper Confidence Limit
OSP	ORD's Office of Science Policy	USGS	U.S. Geological Survey (Department of the Interior)
OSRTI	OLEM's Office of Superfund Remediation and Technology Innovation	UST	Underground Storage Tanks
OU	Operable Unit		
PCB	Polychlorinated Biphenyl		
PCE	Perchloroethylene		

March 2019

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Program / Regional Office	Program / Regional Office Contact	Technical Support Center	Center Contact	Center Contact Phone	Requestor	Request Date	Status	Site Name	City	State	Support Type	Description
Multi-Regional	Marc Greenberg	Ecological Risk Assessment	Mike Kravitz	513-569-7740	Marc Greenberg (OSWER/OSRTI-ERT (R02)) Katie Malta (R03) Bruce Pluta (R03) Carolyn Bury (R05) Bruce Duncan (R10)	9/11/2012	In Progress	No site	NA	NA	Environmental Risk Assessment	Question: "Should we incorporate climate change issues in ecological risk assessments of contaminated sites?" Response Document Title: <i>Climate Change Issues in Ecological Risk Assessments at Hazardous Waste Sites</i> . Status Update: Response document is in initial stage of development.
Multi-Regional	Andrea LaTier	Ecological Risk Assessment	Mike Kravitz	513-569-7740	Sharon Thoms (R04) Glenn Adams (R04) Bruce Duncan (R10)	9/11/2012	On-Going	No site	NA	NA	Environmental Risk Assessment	Question: "Geochemical Evaluations-Statistics or no Statistics?" Response Document Title: <i>Separating Anthropogenic Metals Contamination from Background: A Critical Review of Geochemical Evaluations and Proposal of Alternative Methodology</i> . Status Update: Response document is in final preparation (i.e., External peer review was completed. Comments are being addressed).
OLEM/OSRTI	Carlos Pachon	Site Characterization and Monitoring	Jan Szaro	617-918-1316	OLEM/OSRTI	8/7/2018	On-Going	No site	NA	NA	Technical Advice, Education & Innovation	The SCMTSC is assisting OSRTI with identifying trends in the development and deployment of environmental investigation and remediation technologies by analyzing large data pools related to the topic. The overall goal of this effort is to help EPA identify opportunities for future investments in solutions and capture and communicate technical/performance information for key environmental technologies.
OLEM/OSRTI	Michele Burgess	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Michele Burgess	9/7/2018	In Progress	No site	NA	NA	Human Health Risk Assessment	The STSC is assisting the OHHRAAF with reviewing the derivation of the toxicity values for a list of several chemicals.
OLEM/OSRTI	Linda Gaines	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Linda Gaines	11/26/2018	Completed	No site	NA	NA	Human Health Risk Assessment	The STSC assisted with identifying past requests that provide potential surrogates for Endosulfan and Endrin. STSC responded with a prior response for Region 2 on the use of technical endosulfan as a surrogate for endosulfan II for the evaluation of oral noncancer toxicity. No such response was available for Endrin.
Other (See Description)	Carlos Pachon, Kira Lynch	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8659/ 617-918-1316	Engr. Forum Green Metrics	12/6/2018	In Progress	No site	NA	NA	Engineering and Prototype Testing	The SCMTSC is responding to a request from the Engineering Forum to pilot a "Greener Cleanup Metrics" spreadsheet tool, which will help to capture basic remedy environmental footprint information. A scoping call was held on December 19, 2018, to discuss the technical approach for testing the spreadsheet.
Other (See Description)	John McKernan	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8659/ 617-918-1316	Engineering Technical Support Center	12/18/2018	In Progress	Bridgeton Sanitary Landfill	Bridgeton	MO	Document Review	The SCMTSC is assisting the ETSC with identifying and coordinating external peer review of an ETSC document, titled: "Analysis of Temperature, Gas Quality and Settlement Trends at the Bridgeton Sanitary Landfill in 2017."
Region 01	Darryl Luce	Engineering	Jan Szaro	617-918-1316	Jan Szaro	10/1/2018	On-Going	Chlor-Alkali Facility	Berlin	NH	Technical Advice, Education & Innovation	The ETSC is assisting Region 1 and providing expertise to address groundwater geochemistry issues.
Region 01	James DiLorenzo	Groundwater	David Burden	580-436-8606	James DiLorenzo	10/15/2018	Completed	Olin Chemical Superfund Site	Wilmington	MA	Document Review	The GWTSC staff conducted a preliminary technical review for the removal of dense aqueous phase liquids (DAPL). Comments and recommendations were provided on a proposed explanation for the failure of the DAPL removal pilot test and a potential alternative design that involves a short-screened extraction well to remove the DAPL.
Region 01	Robert Maxfield, Ian Dombrowski, Maggie Theroux	Site Characterization and Monitoring	Jan Szaro	617-918-1316	Region 01 / ORD	7/19/2017	In Progress	No site	NA	NA	Engineering and Prototype Testing	In early 2017, EPA, in partnership with The Nature Conservancy, the U.S. Geological Survey (USGS) and others, launched the "Advanced Septic System Nitrogen Sensor Challenge" to spur the development and design of a low-cost nitrogen sensor package that can measure and monitor the performance of advanced nitrogen removal septic systems. The partnership team requested technical assistance from the SCMTSC in developing and implementing the verification protocols and testing of the sensors. Prescreening testing of a prototype sensor started in mid-October and ended in early November. That sensor passed the testing for nitrates but still must also pass for ammonia. The sensor team will perform the second round of prescreening testing in Spring of 2019. Two other sensor teams have come forward with their prototypes and will also participate in the second round of prescreening testing.
Region 01	Tom Hatzopoulos	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Tom Hatzopoulos	6/26/2018	On-Going	Hancock Ellsworth Tanners Inc.	Hancock	ME	Human Health Risk Assessment	Request for information on the Regional Removal Management Levels (RMLs) for multiple chemicals (chromium, lead, arsenic, PCBs, mercury, and asbestos) has been referred to OLEM.
Region 02	Diana Cutt	Engineering	Thabet Tolaymat, David Carson	513-569-7527	Diana Cutt	10/19/2018	On-Going	Brookhaven landfill	Brookhaven	NY	Technical Advice, Education & Innovation	The ETSC is providing assistance with landfill fire at the site.

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Region 02	Diana Cutt	Engineering	Thabet Tolaymat, David Carson	513-569-7527	Diana Cutt	10/8/2018	On-Going	Dewey Loeffel Landfill	Nassau	NY	Technical Advice, Education & Innovation	The ETSC is providing document reviews and reviewing options for remediation of the landfill.
Region 02	Carl Plossl	Engineering	Thabet Tolaymat, David Carson	513-569-7527	Diana Cutt	9/26/2018	On-Going	Puerto Rico Landfills		PR	Technical Advice, Education & Innovation	The ETSC is providing technical assistance on using phyto-covers or manufactured man-made covers for old landfills in Puerto Rico.
Region 02	Raymond Klimcsak	Groundwater	David Burden	580-436-8606	Raymond Klimcsak	9/30/2018	Completed	Sherwin-Williams/Hillards Creek Superfund Site	Gibbsboro	NJ	Document Review	The GWTSC staff reviewed and provided comments on the Technical Memo: "Evaluation of the Applicability of Thermal-Enhanced Recovery at the Former Manufacturing Plant for the Sherwin-Williams/Hillards Creek Superfund Site." The memo outlines a preliminary evaluation of the appropriateness of thermal remediation to address light non-aqueous phase liquid contamination at parts of the site.
Region 02	Ira-Perry Katz	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8659	Region 02	3/22/2018	On-Going	Chemours (formerly DuPont) Pompton Lakes	Pompton Lakes Works	NJ	Document Review	Region 2 requested support from the SCMTSC in early 2018 to help develop background concentrations and threshold values for mercury and other contaminants at the site. The SCMTSC continues to provide assistance to the Region as they work with the State of New Jersey and other partners to review and generate consensus comments for the site's long-term management plan for dredging 40 acres of the site.
Region 02	David Rosoff	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8649 / 617-918-1316	Region 02	8/10/2017	On-Going	Vo-Toys	Harrison	NJ	Technical Advice, Education & Innovation	The ETSC and SCMTSC developed an ambient exposure model to simulate releases during combustion to help determine potential risk from the site to neighboring communities if a fire should occur. On October 18, SCMTSC provided support and modeling results criteria for first responders at planning meeting and is now updating the model information at the Request of the Region. The Center is developing an improved model that will provide more detailed information and is assisting the Region with State and local authorities to discuss specific emergency response needs.
Region 02	Marian Olsen	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Marian Olsen	11/15/2018	Completed	Dewey Loeffel Landfill	Nassau	NY	Human Health Risk Assessment	Identified toxicity values for chemicals of interest at the Dewey-Loeffel Landfill and provided Region 2 with a table of the requested toxicity values.
Region 02	Michael Sivak	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Michael Sivak	11/6/2018	On-Going	Onondaga Lake	Syracuse	NY	Human Health Risk Assessment	The STSC is assisting Region 2 with deriving toxicity values for 1-phenyl-1-[2,4-dimethylphenyl]-ethane and 1-phenyl-1-[4-methylphenyl]-ethane. The Center has taken steps to evaluate the potential for development of PPRTVs for these chemicals and will continue to work on scoping scoping for potential toxicity values.
Region 02	Lora Smith-Staines	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Lora Smith-Staines	6/4/2018	In Progress	Quanta Resources	Edgewater	NJ	Human Health Risk Assessment	The STSC is assisting with evaluation of an inhalation toxicity value for naphthalene for use in a clean-up effort. The STSC is reviewing a scientific approach used by ATSDR with the specific focus on the derivation of the acute value for naphthalene inhalation.
Region 02	Marian Olsen	Superfund Health Risk Assessment	Teresa Shannon	513-569-7596	Marian Olsen	9/12/2018	Completed	Riverside Avenue Site	Newark	NJ	Human Health Risk Assessment	The STSC assisted with determining surrogates for several chemicals at the Riverside Superfund site and provided the requestor with potential surrogate chemicals/values.
Region 03	Stephen Tyahia	Engineering	Ed Barth	513-569-7849	Stephen Tyahia	12/11/2018	On-Going	Jackson Ceramix	Falls Creek	PA	Technical Advice, Education & Innovation	The ETSC is providing technical assistance on technologies used for immobilizing lead, including the use of fulvic and humic acid derivatives.
Region 03	Stephen Tyahia	Engineering	Ed Barth	513-569-7849	Jonathan Essoka	10/24/2018	On-Going	L.A. Clarke & Son	Spotsylvania	VA	Technical Advice, Education & Innovation	The ETSC is providing technical assistance to evaluate both ex-situ and in-situ treatment methods for minimizing dense nonaqueous phase liquid (DNAPL) migration, including in-situ thermal heating methods.
Region 03	Sarah Klause	Engineering	Roger Yeardley, Marc Mills	513-569-7548	Stephen Tyahia	12/10/2018	On-Going	Willow Grove	Willow Grove	PA	Technical Advice, Education & Innovation	The ETSC is assisting with ecotoxicity testing (Earthworm, Avoidance, Bioaccumulation) of PFAS contaminated soils at the site.
Region 03	Stephen Tyahia	Groundwater	David Burden	580-436-8606	Stephen Tyahia	11/8/2018	Completed	L.A. Clarke & Son	Spotsylvania	VA	Document Review	The GWTSC staff reviewed comments on a proposed thermal remediation approach for the site and reviewed site characterization data in the RI/FS to evaluate whether thermal remediation may be applicable to all or portions of the dense nonaqueous phase liquid (DNAPL) impacted areas of the site.
Region 03	Jonathan Essoka	Site Characterization and Monitoring	Jan Szaro	617-918-1316	Region 03	12/17/2018	In Progress	Central Chemical	Hagerstown	MD	Document Review	After receiving conflicting dioxin concentration data from two different labs, the Region requested support in reviewing the lab analysis and procedures from each lab to try to determine the discrepancy. A scoping call / discussion of data needs will be held in February 2019.
Region 04	Felicia Barnett	Engineering	Robert Ford	513-569-7501	Felicia Barnett	9/11/2018	On-Going	Tyndall Air Force	Panama	FL	Technical Advice, Education & Innovation	The ETSC is providing technical assistance to evaluate the effectiveness of using groundwater management system to control heavy metals in the site's groundwater.

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Region 04	Neema Atashi	Groundwater	David Burden	580-436-8606	Neema Atashi	11/7/2018	On-Going	Sonford Products Superfund Site	Flowood	MS	Document Review	The GWTSC staff performed a technical review of the site's supplemental workplan, specifically the supplementary treatability study to assess whether the treatment cleanup goal could be achieved. The treatability study involved a range of sodium persulfate dosages. The GWTSC provided comments that raised questions about the underlying scientific basis for certain aspects of the proposed testing and provided recommendations to limit the scope of the testing and reduce cost.
Region 04	Brad Jackson	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8659/ 617-918-1316	Region 04	2/25/2017	Completed	B.F. Goodrich	Calvert City	KY	Technical Advice, Education & Innovation	The SCMTSC continues providing support at the B.F. Goodrich site. The ROD was signed on September 5, 2018, and the Center completed final support comments and provided final documents in November of 2018. The effort has now been completed.
Region 04	David Andrews	Site Characterization and Monitoring	Felicia Barnett, Jan Szaro	404-562-8659/ 617-918-1316	Region 04	6/29/2017	On-Going	No site	NA	NA	Engineering and Prototype Testing	Region 4 is performing an ORD supported applied research project on the use of magnesium sulfate (Epsom Salt) solution in mercury spill mitigation. SCMTSC is providing specific mercury speciation analysis. The lab work was performed the week of September 3, 2018, and sample analysis was completed in December, 2018. Final review is expected in early 2019.
Region 05	Charlie Hall	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 05	10/25/2018	In Progress	No site	NA	NA	Technical Advice, Education & Innovation	The SCMTSC discussed the regional needs for developing a representative sampling plan for leak detection at Kroger operated refrigeration units (RUs) containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs). On December 19, 2018, the Center recommended a cluster sampling methodology with a statistically-derived optimum sample size. The Center will provide the recommended sample numbers in February 2019.
Region 05	Verneta Simon	Site Characterization and Monitoring	Felicia Barnett, Dale Werkema	404-562-8659	Region 05	10/16/2018	Completed	Western Tar Products Site	Terre Haute	IN	Document Review	The SCMTSC assisted Region 5 and the Indiana Department of Environmental Management (IDEM) with reviewing comments that the PRP provided about the geophysical characteristics of the site. SCMTSC provided response to this request on October 30, 2018.
Region 06	Katrina Coltrain	Groundwater	David Burden	580-436-8606	Katrina Coltrain	9/15/2018	On-Going	Eagle Industries Superfund Site	Midwest City	OK	Groundwater Monitoring	The GWTSC staff evaluated field methods to assess the site-specific utility of various hydrogeologic characterizations tools. The GWTSC measured groundwater elevations and determined potential directions of groundwater flow using existing monitoring wells, deployed pressure transducer/data loggers to evaluate temporal fluctuations in groundwater elevations, and logged selected wells with a downhole geophysical tool to provide information regarding site stratigraphy.
Region 06	Khoury, Ghassan	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 06	11/20/2018	Completed	Tar Creek	Ottawa County	OK	Technical Advice, Education & Innovation	The SCMTSC provided statistical support for a proposed plan to develop soil screening or cleanup levels based on the amount of metal being accumulated from soil into corn kernels. The Region wanted to determine if there was a way to extrapolate a regression line beyond the data set to obtain the screening/cleanup levels. The Center reviewed the data and commented there was not a statistically valid way to perform the extrapolation. On December 6, 2018, recommendation was provided to the Region to collect additional data samples to support any final cleanup levels.
Region 07	Venessa Madden	Ecological Risk Assessment	Mike Kravitz	513-569-7740	Venessa Madden	9/11/2012	On-Going	No site	NA	NA	Environmental Risk Assessment	Question: "What is the appropriate use of allometric scaling in ecological risk assessments?" Response Document Title: <i>Allometric Scaling of Terrestrial Wildlife Oral Toxicity Measurements and Comparison of Ecological to Human Health Assessment Contexts</i> . Status Update: Internal peer review was completed. Comments have been addressed and External Review Draft is near completion.
Region 07	Rob Weber	Engineering	Ed Barth	513-569-7849	Eric Nold	11/2/2018	On-Going	12th Ave Solvents	Ava	MO	Technical Advice, Education & Innovation	The ETSC is assisting regional staff by providing input on proposed approaches to address low-level contaminants at the site.
Region 07	Rob Weber	Engineering	Mohamed Hantush	513-569-7849	Tanyi	10/31/2018	On-Going	5th and Lincoln Street	Lexington	NE	Technical Advice, Education & Innovation	The ETSC is assisting with the design and development of a PCE leaching model for groundwater at the site.
Region 07	Rob Weber	Engineering	Ed Barth	513-569-7089	David Wennerstrom	10/30/2018	On-Going	Conservation Chemicals	Kansas City	KS	Technical Advice, Education & Innovation	The ETSC is reviewing a groundwater model developed by the PRP to evaluate the performance of the groundwater extraction and treatment system and associated contaminant plume.
Region 07	Rob Weber	Engineering	Kirk Scheckel	513-487-2865	Diana Harris	9/25/2018	On-Going	Harcros Chemical	Kansas City	KS	Technical Advice, Education & Innovation	Assisting regional staff with addressing vanadium pentoxide contamination in surface soils at the site.
Region 07	Rob Weber	Engineering	Ed Barth	513-569-7089	Rob Weber	9/10/2018	On-Going	Lake City Army	Independence	MO	Technical Advice, Education & Innovation	The ETSC is reviewing groundwater aquifer cleanup time projections documented in a site report.

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Region 07	Rob Weber	Engineering	Ed Barth, John McKernan	513-569-7849	Kurt Limesand, Dan Kellerman	10/25/2018	On-Going	Madison County Mines	Madison	MO	Technical Advice, Education & Innovation	The ETSC is developing a final geotechnical report for the site, using data provided by USGS and contractor staff. The report will provide site managers with information about lead contamination at Fredericktown lake (Operable Unit 7 of the Madison County Mines site).
Region 07	Rob Weber	Engineering	John McKernan	513-569-7415	Susan Fisher, Bill Gresham	11/1/2018	On-Going	Ogallala	Ogallala	MO	Technical Advice, Education & Innovation	The ETSC is assisting site managers with addressing TCE contamination at the site and is developing groundwater sampling and workplans based on the draft QAPP.
Region 07	Rob Weber	Engineering	Ed Barth	513-569-7849	Eric Nold	11/2/2018	On-Going	Sentinal Wood Treatment	Ava	MO	Technical Advice, Education & Innovation	Assisting regional staff by providing input on proposed approaches to address low-level contaminants at the site.
Region 07	Rob Weber	Engineering	John McKernan	513-569-7415	Justin Barker, Tom Mahler	2/10/2015	On-Going	Westlake Landfill	Bridgeton	MO	Technical Advice, Education & Innovation	The ETSC helped develop a sampling plan for the outer area of the landfill using spatial statistical methods and is assisting the Region with developing comments on site remediation goals and planning documents.
Region 07	Amer Safadi	Groundwater	David Burden	580-436-8606	Amer Safadi	9/16/2018	Completed	57th and Broadway Superfund Site	Topeka	KS	Document Review	The GWTSCT staff reviewed numerous documents associated with the site including the Project Plan, a Performance Work Statement for the Remedial Design and bench scale studies conducted by the PRP for chemical oxidation of 1,4-dioxane in groundwater at the downgradient pump and treat system.
Region 07	Devon Pollack	Site Characterization and Monitoring	Felicia Barnett, Dale Werkema	404-562-8659	Region 07	9/13/2018	Completed	Compass Plaza Well TCE	Rogersville	MO	Plume Delineation	Provided recommendations on geophysical solutions to map the site's subsurface geology and understand TCE fate and transport.
Region 07	Amy Shields	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 07	9/14/2018	In Progress	No site	NA	NA	Environmental Risk Assessment	The SCMTSC is assisting the RARE Project team: "Development of strategies and methods for monitoring for algal bloom and occurrence of toxic algae using next generation sequencing qPCR and PhyloChip microarrays" by performing statistical analysis for the first data set. A meeting is scheduled for early 2019 to discuss results and next steps.
Region 07	Greg Bach	Site Characterization and Monitoring	Jan Szaro	617-918-1316	Region 07	11/28/2018	In Progress	Southwest Jefferson County Mining Floodplain	Jefferson County	MO	Document Review	Region requested support for revising a previous Technical Memorandum, titled: "Proposed Soil Sampling Approaches for Southwest Jefferson County Mining Site, Jefferson County, Missouri." The revisions will include responding to EPA comments on the previous Technical Memorandum, and developing a more generic soil sampling approach for impacted properties throughout the Big River flood plain. A scoping call was held on December 18, 2018.
Region 07	Brad Vann, Tom Mahler	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 07	2/10/2015 9/15/16	On Hold	Westlake Landfill	Bridgeton	MO	Document Review	The SCMTSC has helped develop a sampling plan for the outer area of the landfill using spatial statistical methods and is assisting the Region with developing comments on site remediation goals and planning documents. On June 5, 2018, the Center provided comments on the Geostatistical Technical Memorandum, titled: "Analysis of Excavitation Alternatives for Radiologically Impacted Material (RIM)" and commented on revisions. A ROD was signed on Sept. 27, 2018 and the SCMTSC is awaiting a decision from the Region about additional monitoring support.
Region 08	Steve Dymment	Site Characterization and Monitoring	Jan Szaro	617-918-1316	Region 08	12/18/2018	In Progress	Bonita Peak Mining District	Multiple sources near Animas River headwaters	CO	Plume Delineation	The Region has requested isotopic analysis support to better understand shallow and deep groundwater flow paths and how they relate to contaminant transport and surface water/groundwater interactions. Isotopic analysis will help identify source rock materials for groundwater sources, age-date source water and consider mixing zones, in relation to mine features and surface water expression. A scoping call is scheduled for February 2019.
Region 09	Carolyn d'Almeida	Groundwater	David Burden	580-436-8606	Carolyn d'Almeida	11/8/2018	On-Going	Williams Air Force Base	Mesa	AZ	Document Review	The GWTSCT staff reviewed site memoranda, "ST012 Remedial Action Field Variance Memorandum 6 - Pilot Study Supplemental Data and Evaluation Metrics" and "ST012 Remedial Action Field Variance Memorandum 7," and found that they have many of the same deficiencies previously found in the site's Addendum #2 and Pilot Scale Work Plan.

## Technical Support Centers Summary Report

### Key

**In Progress** A technical support request has been submitted to a TSC and they are currently working on a response, but at the time of the quarterly report a response to the Region or Program Office has not been produced.

**On Hold** A request for technical support from the Region or Program Office has been made, but due to issues the technical support request is on hold (i.e. data has not been received, legal hold, conflict of interest, funding, etc.).

**Completed** A technical support request has been submitted and a response has been provided to the Region or Program Office. No further assistance on this site is anticipated at this time.

**On-Going** A technical support request has been submitted and a response has been provided to the Region or Program Office, however the Region/Program Office and/or the TSC anticipates further assistance will be needed on this site/issue in the near future.

Program / Regional Office	Program / Regional Office Contact	Technical Support Center	Center Contact	Center Contact Phone	Requestor	Request Date	Status	Site Name	City	State	Support Type	Description
Region 09	Dante Rodriguez	Site Characterization and Monitoring	Jan Szaro	617-918-1316	Region 09	5/31/2018	In Progress	Anaconda Copper Mine	Yerington	NV	Document Review	The SCMTSC reviewed site documents and historical background information about the abandoned copper mine site and its operations and was asked to determine whether or not there is a probability that chemical transport from the mine may be the cause of elevated metals concentrations in the nearby Weber Reservoir. The SCMTSC provided initial technical comments on August 29, 2018. Due to insufficient site data, the team is waiting to finalize the technical memo until more data can be collected and analyzed. The SCMTSC received data tables from additional sample analyses in January 2019 and SCMTSC staff aim to complete this support effort by the third quarter of 2019.
Region 09	Queenie Mungin-Davis, Rebecca Jamison	Site Characterization and Monitoring	Felicia Barnett, Dale Werkema	404-562-8659	HQ Underground Storage Tanks (UST)	3/9/2017	Completed	Davis Chevrolet Navajo and Hopi site	Tuba	AZ	Technical Advice, Education & Innovation	The headquarters UST staff, on behalf of Region 9, requested assistance with reviewing the Geophysical Dipole-Dipole Resistivity/Induced Polarization (IP) Report for this site. The SCMTSC developed a 3D representation of the data draped over site topography and developed a deeper magnetic survey in October 2018. This data will help strengthening site subsurface interpretations, and site managers can plot well locations on these images to strengthen the next version of the Conceptual Site Model (CSM). A more complete understanding of the subsurface is critical to support effective long-term remediation decisions and efforts.
Region 09	Lily Lee	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 09	2/8/2017	On-Going	Hunter's Point	San Francisco	CA	Technical Advice, Education & Innovation	After the Navy's contractor was caught falsifying site data, the Region requested assistance from the SCMTSC with overseeing re-sampling and verification of the actual levels of contamination still remaining on the site. The Center provided review comments on the Navy's verification process and is participating in site sampling reviews and conference calls. In October 2018, the Center provided a quick review of PRP's response comments. On November 29, comments were provided by the Center on the "Draft Final United States Naval Parcel G Removal Site Evaluation Work Plan" and on December 11, 2018, comments were provided on the sampling recommendations.
Region 09	Julie Sullivan	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 09	12/4/2018	In Progress	Leviathan Mine	Markleeville	CA	Document Review	The SCMTSC is assisting the Region with determining background threshold values for the site. The site has highly variable arsenic levels depending on the media, as well as the type of evaluation approach being used. A scoping call was held on December 19, 2018, to review existing data and analyses provided by the PRP.
Region 10	Andrea LaTier	Ecological Risk Assessment	Mike Kravitz	513-569-7740	Jean Zodrow	9/11/2012	On-Going	No site	NA	NA	Environmental Risk Assessment	Question: Developing a tool to understand and assess the bioavailability of contaminants in soils. Response Document Title: <i>Terrestrial Metals Bioavailability: A Literature Derived Decision Rule for Ecological Risk Assessment</i> . Status Update: External Review Draft is completed.
Region 10	Kira Lynch	Engineering	Ed Barth	513-569-7089	Kira Lynch	10/4/2018	On-Going	Bremerton Gasworks	Bremerton	WA	Technical Advice, Education & Innovation	The ETSC reviewed the site passive sediment data summary memo and met with the site team to discuss review comments.
Region 10	Kathy Cerise	Groundwater	David Burden	580-436-8606	Kathy Cerise	9/15/2018	Completed	Quendall Terminal	Renton	WA	Document Review	The GWTSC staff reviewed the "Draft Self-Sustaining Treatment for Active Remediation (STAR) Pre-Design Evaluation" and found that while the document aptly described the STAR pilot study performed at the site, it was not clear how the report data fully support the site-specific conclusion for the radius of influence of the combustion and the propagation rates.
Region 10	Ted Repasky	Site Characterization and Monitoring	Felicia Barnett	404-562-8659	Region 10	6/5/2018	On Hold	Red Devil Mine	Red Devil Village	AK	Technical Advice, Education & Innovation	The SCMTSC is providing technical support to evaluate and develop statistically-based background values that can be used to help determine remediation options for the site. The SCMTSC is working to provide recommendations on well data use and Background Threshold Values (BTVs) in early 2019.